the full text of which is to be published in the next "Charité-Annalen." Exclusive of doubtful cases of angina, so-called scarlatinal diphtheria, and idiopathic croup, no fewer than 319 cases of the disease were observed; 216 of these were between the ages of two and six years. The mortality was very high—viz., 208—particularly in the first three years of life, for only 17 out of 118 attacked in this period recovered. This high mortality was ascribed partly to the "genius epidemicus," partly to the unsanitary surroundings of the sick, and to the fact that many of them were tuberculous and of the lowest class. In 145 cases the larynx was implicated, and 129 of these succumbed; of the remaining 174 cases, 79 died. Tracheotomy was performed in 138 cases, with only 16 recoveries—*i. e.*, 11½ per cent.; but 17 of these deaths were due to the supervention of scarlet fever. Of 66 cases tracheotomized in the first three years of life only 2 survived; death being almost invariably due to croupous bronchitis or bronchopneumonia; but occasionally to erysipelas of the wound and diphtheritic collapse. On an average the greatest danger to life was from the second to the fourth day after the operation. Speaking of the associated conditions and symptoms, Dr. Henoch said that, scarlatinal cases excluded, cutaneous eruptions were rare. In three cases a diffuse ulticaria-like erythema was noted over the nates and extensor surfaces of the extremities. Swelling of the submaxillary glands was constantly observed; but except in highly malignant cases it did not pass on to suppuration. In no case—except one doubtful scarlatinal one—was there swelling of joints; nor endocarditis, which was never found post-mortem. Albuminuria was most common, and if it reached an amount of about one-third or more was regarded as of bad prognostic significance; for in such a case it indicated either intense blood-poisoning or nephritis, which *per se* was an element of danger even after the diphtheria had passed away. Dropsy, however, rarely occurred, and uræmic symptoms were never observed. This nephritis, which could hardly be considered a true sequel, was frequently associated with cardiac debility, the occurrence of inflammations, and diphtherial paralyses. The use of corrosive sublimate as a gargle, of arsenic and iron, and of papayotin in serious cases, was advocated.—*Lancet*, Nov. 29, 1884.

The Symptoms of Rickets considered in relation to their Anatomical Origin.

M. KASSOWITZ, in an article in the *Jahrbuch für Kinderheilkunde*, Bd. xxii. p. 60, says that the most striking feature in the microscopic anatomy of rickets is the hyperæmia and increased vascularity of all the tissues, and especially of those in which the growth of the young bone is going on. It is to be seen in marrow, cartilage, and periosteum, as well as in the bone itself. Indeed, a new formation of bloodvessels takes place, and vessels are to be found in places where normally there are none. This increased vascularity must be considered the primary lesion out of which all the others arise. It acts in two ways: firstly, it disturbs the course of development of the growing bone; and, secondly, it sets up unhealthy processes within bone already formed. In the growing bone excess of nutritive material causes excessive proliferation of cartilage cells, and a consequent loss of firmness in the cartilaginous tissue: the cells are increased in size and number, and the matrix is also more abundant and softer than usual. There is also an increase, in the earlier stages of rickets, of the area of ossification; but the bone thus formed does not become thoroughly firm, because the involution of the vessels, which is a necessary process in the formation of healthy bone, does not take place. The result is a loosely-formed bony tissue wanting in compactness and solidity. In the bone already formed, the hyperæmia of the surrounding tissues has an equally disastrous action; the normal processes of absorption and addition are disturbed, absorption taking place more rapidly, while the newly-added material is less rich in chalky salts—the whole bone substance thus becoming more yielding and wanting in strength. In this manner the bones may become, in severe cases, quite soft and elastic. A careful examination of the dissected bones often shows minute fractures of the bony shell, these fractures occurring most frequently on the convex side of the bent parts. But it is impossible to make them out on the living subject. Complete fractures with crepitus and displacement are very rare. The pathology of rickets being as above described, the process of cure consists in a converse movement; the hyperæmia ceases, the superabundant bloodvessels are gradually obliterated, this involution being accompanied, as is always the case both in normal and pathological growth of bone, by a concentric deposit of new bony tissue in the area of the obliterating vessels,—the new bone thus deposited becoming exceptionally hard and dense. After laying down these principles as applying to rickets in every situation, the author proceeds to consider at great length the changes which take place in the individual bones. The paper is to be concluded in a future number.—*Edinb. Med. Journ.*, Dec. 1884.

Phosphorus in the Treatment of Tubercular Disease.

Tubercular meningitis is generally admitted to be one of the most hopeless of the diseases which a physician can be called upon to treat. This, doubtless, is the explanation of the fact—which comes also as a somewhat humiliating commentary on the present limitation of our knowledge and the instability of our theories as to the cause and nature of the malady—that the recommendation of a certain preparation of phosphorus, made a short time since by a correspondent of one of our contemporaries, led, in the course of two or three days only, to the exhaustion of the whole of the stock then in the hands of the manufacturers as well as of the retail dealers. The value of some combinations of phosphorus, of the hypophosphites especially, has been lauded by several competent observers, in the treatment of pulmonary and other affections which were believed to own a tubercular origin, although we experience some difficulty in assigning its just value to the specific adjective in this connection, inasmuch as one of the advocates of the hypophosphite treatment has recently stated his belief that the drug is only of real curative value in those cases in which the typical bacilli are absent. Phosphorus, pure and uncombined, however, is seldom or never administered as a curative agent in cases of tubercular meningitis. The remedies now most employed may be said to be chosen mainly with the object of avoiding or of allaying those symptoms of cerebral irritation which are usually the most painful, as they are apt to be the most conspicuous features of the disease. This, of course, is treatment only of a palliative sort; it does not, admittedly, go down so far below the surface phenomena as to attempt to deal explicitly with the formation, the growth, the very existence of that tubercular plasm whose presence is the exciting cause of the symptoms by which we have learned to recognize its nature. And palliative treatment, in cases such as these almost invariably are—cases in which the hopelessness of recovery is so enormous, and so generally admitted, that it effects and seems almost to justify a therapeutic paralysis—really resolves itself, if we dare to look the matter in the face, into a barely disguised ordering of euthanasia. Cases of complete and permanent recovery from "tubercular" affections of the lungs (whatever be the precise nature of the lesions grouped under that rather vague terminology) occur much less rarely than the pathologist of a generation since would have believed possible. Good observers hold that there is evidence of similar favorable results